

WHAT IS CLAIMED IS:

1. An optimal portfolio determining method for determining purchasing amounts of respective financial products among a plurality of financial products so as to optimize an objective function consisted of earning rate of all of a plurality of financial products and risk influencing for earning, comprising:
 - input step of inputting constraint parameters forming constraint condition for optimizing objective function consisted of an expected value of the earning rate of each individual financial product, individual floating factor as unique factor of each individual financial product influencing for earning, common floating factor as factor influencing for earning of overall financial products, and risk influencing for earning rate and earning of overall financial product; and
 - solving step of determining financial product to purchase and purchasing amount for maximizing said objective function on the basis of input data.

2. An optimal portfolio determining method as set forth in claim 1, which comprises preliminary process step of processing of dividing a coefficient matrix appearing in said objective function into a partial matrix relating to individual floating factor of each individual financial product, and a partial matrix relating to the common floating factor, upon determining the financial product to purchase and purchasing amount.

3. An optimal portfolio determining method as set forth in claim 2, wherein said partial matrix relating to said individual floating factor is a diagonal matrix having elements in a portion of diagonal component corresponding to number of financial products to be selected.

4. An optimal portfolio determining method as set forth in claim 2, wherein said partial matrix relating to said common floating factor is a matrix taking square of said common floating factor as dimension.

5. An optimal portfolio determining method as set forth in claim 1, which comprises preliminary process step of processing of dividing a matrix consisted of said constraint parameters into a partial matrix relating to said financial products and said common floating factor, a partial matrix relating to said common floating factor, and a partial matrix relating to said financial product and purchasing amount thereof.

6. An optimal portfolio determining method as set forth in claim 5, wherein said partial matrix relating to said financial product and said common floating factor is a matrix taking a product of said financial product and said common floating factor as dimension.

7. An optimal portfolio determining method as set forth in claim 5, wherein said partial matrix relating to said common floating factor is a diagonal matrix having element in a portion of diagonal component corresponding to number of said common floating factor.

8. An optimal portfolio determining method as set forth in claim 5, wherein said partial matrix relating to constraint for purchasing amount of said financial product is a diagonal matrix having element in a portion of diagonal component corresponding to number of said common floating factor.

9. An optimal portfolio determining method as set forth in claim 1, which comprises preliminary process step of processing of dividing a matrix consisted of said constraint parameters into a partial matrix relating to said financial products and said common floating factor, a partial matrix relating to said common floating factor, a partial matrix relating to said financial product and purchasing amount thereof, and a partial matrix relating to purchasing amount of each group in the case where said financial products are grouped into a plurality of groups.

10. An optimal portfolio determining method as set forth in

claim 9, wherein said partial matrix relating to said financial product and said common floating factor is a matrix taking a product of said financial product and said common floating factor as dimension.

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11. An optimal portfolio determining method as set forth in claim 9, wherein said partial matrix relating to said common floating factor is a diagonal matrix having element in a portion of diagonal component corresponding to number of said common floating factor.

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12. An optimal portfolio determining method as set forth in claim 9, wherein said partial matrix relating to constraint for purchasing amount of said financial product is a diagonal matrix having element in a portion of diagonal component corresponding to number of said common floating factor.

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13. An optimal portfolio determining method as set forth in claim 9, wherein said partial matrix relating to constraint for purchasing amount of the group, in which said financial products belong, is a matrix taking a product of number of said groups and said financial products.

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14. An optimal portfolio determining method as set forth in any one of claims 1 to 13, which further comprises display step

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outputting the risk indicative of variation of earning and earning rate consisting said objective function.

15. An optimal portfolio determining system having a computer
5 unit for determining purchasing amounts of respective financial products among a plurality of financial products so as to optimize an objective function consisted of earning rate of all of a plurality of financial products and risk influencing for earning, said computer unit comprising:

10 storage device storing an expected value of the earning rate of each individual financial product;

storage device storing individual floating factor as unique factor of each individual financial product influencing for earning,

15 storage device storing common floating factor as factor influencing for earning of overall financial products, and

storage device storing constraint parameters forming constraint condition for optimizing objective function consisted of risk influencing for earning rate and earning of
20 overall financial product;

optimal portfolio solving device determining financial product to purchase and purchasing amount for maximizing said objective function on the basis of data stored in said storage device; and

25 display device outputting determined optimal portfolio.

16. An optimal portfolio determining system as set forth in claim 15, wherein said computer unit comprises a server computer including respective storage devices and said optimal portfolio
5 deriving device, and a plurality of client computers receiving information relating to the optimal portfolio calculated by said server computer for displaying, and said sever computer and said client computers are connected through a network.

10 17. An optimal portfolio determining program readable by a computer and including input step and solving step defined in claim 1.

15 18. A storage medium storing a program readable by a computer which stores a program executing said input step and solving step defined in claim 1 on the computer.